



**xynomix**

**Client Study Portfolio**



## Client Study: UK District Council

*A re-architecture of the client's RAC Environment and full 24/7 support of the client's database systems thereafter has eliminated the risk of unplanned downtime, reduced the total cost of running Oracle and increased the client's returns on Oracle investments*

Our client is a large unitary council operating a mission critical Oracle RAC environment. They require high availability for Revenue & Benefits systems.

### Issues

Recognising the requirement for high availability and rapid data processing, the client had implemented an Oracle Real Application Cluster environment to meet high levels of demand. Shortly after the system went live, a senior member of the Oracle DBA team left the company. Their skills were reduced and the RAC environment was functioning poorly: processes were slow and the database itself was unstable. This was affecting service levels and was also costing the council a great deal in support costs.

### Xynomix' Solution

*An initial diagnosis, re-architecture of systems, minimum downtime and 24/7 monitoring and management.*

Xynomix' initial role was to assess the function of the RAC database system in its entirety. A lead Xynomix DBA quickly identified that a large proportion of the support delivered was due to the physical cluster build. It was clear that the clustered environment should be reconfigured to create a stable underlying database solution that would facilitate effective query performance and would provide a robust base upon which to scale the systems.

Initially, Xynomix worked closely with the client's on-site DBA team to re-architect the entire Oracle RAC cluster, including database patching for 9 environments, working to 'minimum downtime' standards. The client was involved up to management level at each stage to ensure that the system would deliver the organisation's objectives.

Key Skills Used: Oracle RAC Re-configuration/Installation, Database Tuning, Full Documentation, Skills Transfer, General Trouble Shooting.

Due to the success of the RAC redesign and regular communication between parties, our client elected not to employ a new senior DBA and engaged Xynomix to provide 24/7 support on a proactive and reactive basis.

### Client Benefits

*Optimised Query Processing, 99.9% Database Uptime, Reduced Oracle Costs and Increased Returns on Oracle Investment.*

Xynomix have monitored and managed the client's Oracle systems and assisted with all Oracle DBA related activity for the last two years. The relationship looks set to continue indefinitely. The client's key aims for support are database reliability, smooth DBA processes and cost saving. These have been consistently achieved through 24x7x365 database monitoring and alerting, and additional 24x7 second line telephone support.

Since Xynomix has been working with the client, the estimated cost savings are in excess of £40,000. Xynomix undertake an equal number of high and low priority tasks, allowing the client's on-site DBAs to focus on specific tasks, outsource work as required and concentrate on specific projects to achieve IT-supported business objectives.



## Client Study: Large UK Manufacturer

*A robust, scalable Linux cluster solution and full remote monitoring and management to achieve the highest possible availability of a mission-critical Oracle database environment and easy future migrations.*

Our client is a large UK Manufacturer operating mission-critical Oracle database systems that control production, sales and distribution for all product ranges.

### Issues

Four years ago, the client was operating a badly architected, poorly performing system. The database system was not consistently managed and could not support the client's busy mission critical applications. As the Oracle systems controlled the vital production, sales and distribution processes for all product ranges, poor database performance seriously affected the business as a whole, reducing productivity and profitability, and costing the client a great deal in support costs.

### Xynomix' Solution

*Implementation of a Linux Cluster with Oracle support 24x7x365 to guarantee virtually non-existent downtime.*

Xynomix were drafted in to assess the client's system requirements and to design an 'always available' system that would match the organisation's current and future ambitions. A team of Xynomix' Oracle technicians attended a series of meetings to learn about the client's Oracle environment, working to understand exactly how Oracle fitted with the business as a whole. It was clear that the system to be implemented would need to eliminate risk to the organisation, delivering the highest plausible levels of uptime. It was also recognised that scalability would be a vital feature of the implemented system to fit with the organisation's predicted levels of growth.

Xynomix technicians re-designed the entire database environment. Due to the client's application constraints, an alternative to Oracle RAC was required. However, as the organisation expressed a possible interest in the future implementation of a RAC environment, it was important that the new system was based on an infrastructure that could be migrated to RAC with minimal system interruption. The new system was based on a Linux Cluster to allow for easy future migration, the full use of shared storage and powerful commodity servers, and the highest possible availability. The client was involved up to management level at each stage of the planning and implementation process to ensure that the system would deliver the organisation's objectives.

For such a critical system, it was recommended that the client's systems were monitored 24 hours per day, 7 days per week, 365 days per year to guarantee virtually non-existent downtime. Four years on, the systems are still being monitored and managed remotely using Xynomix' sophisticated predictive monitoring technologies. Technicians are immediately alerted to potential issues that may arise and are able to log in remotely to prevent their occurrence.

Key Skills Used: Linux-based Cluster Design and Implementation, Individual Database Tuning, Full Remote Monitoring and Management, Full Documentation, Skills Transfer, General Trouble Shooting.

### Client Benefits

*An initial diagnosis; architecture of a clustered system for highest possible levels of system availability; 24x7 monitoring and management; future-proof migration architecture.*

Xynomix have monitored and managed the client's Oracle systems and assisted with all Oracle DBA related activity for the past four years. The client's key aims for a robust, scalable, easy to migrate cluster environment have been consistently achieved, and the requirement for the highest possible levels of uptime is met by the implemented clustering technology and full management and support services provided. Since Xynomix has been working with the client, the estimated cost savings are in excess of £60,000 per year and the database systems have never failed.



## **Client Study: High Security MOD Site**

*Installation of a government-grade Oracle 11g RAC environment and Oracle Information Lifecycle Management strategy capable of securely transferring highly classified data between separate database environments.*

Work was undertaken on behalf of an organisation that specialises in the provision of government-grade systems and software solutions. The client required a faultlessly secure Oracle database structure capable of transferring highly classified data between separate sites within a sub 1 second time frame.

### **Issues**

The primary software solutions provider was focused exclusively on supporting the client's 'top layer' software applications. For such a prestigious project, it was clear that Oracle technology specialists would be required to architect a database capable of securely and reliably processing and transferring large volumes of classified data.

### **Xynomix' Solution**

*Development of a cutting edge environment incorporating Oracle 11g RAC and an Information Lifecycle Management Strategy.*

Xynomix' initial involvement was to provide an Oracle specialist to discuss the suitability of the Oracle-based options available that would meet requirements. Having assessed the options, Xynomix technicians designed a cutting edge technical system, based on an Oracle 11g RAC environment and an Oracle-based Information Lifecycle Management strategy. These solutions were selected and implemented for the levels of scalability and resilience that they offered, as well as the core ability of such a system to meet the vast transfer demands of highly classified data within a sub 1 second time frame. Both partner and client were involved up to management level at each stage to guarantee that the system would meet the stringent specifications outlined for the project.

Key Skills Used: Architectural analysis, Oracle RAC 11g Installation, RAC Cluster Tuning, Design and Implementation of Information Lifecycle Management, Full Documentation, Skills Transfer, General Trouble Shooting.

### **Client Benefits**

A securely architected, resilient system guaranteed to accommodate all data transfer demands until the project's conclusion.

The project was completed on time, within budget and had a complete satisfactory sign off from both the client and software solutions provider.

The software solutions provider was able to engage the services of a dependable organisation capable of providing the highest level of Oracle expertise. They are now confident that the software solution with which they have provided the client will operate effectively until the project's conclusion and beyond.

The client now operates a scalable, resilient Oracle database architecture capable of accommodating the expected transfer demands that will be placed upon the system until the project's conclusion. The levels of reliability that were stipulated prior to the commencement of work have been met and are guaranteed for the duration.



## Client Study: UK-based Container Port

*Our client is a large UK-based container port operating a critical Oracle and AIX-based database infrastructure for warehouse management.*

### Issues

Prior to Xynomix' involvement, the client was operating a 2 node HACMP AIX cluster. The cluster was operating slowly, holding up key business processes and serious database outages were frequent. The Operating System had not been managed effectively and the Oracle database itself had not been tuned since installation.

As the database systems are a critical element of port operations, poor system performance seriously affected business operations as a whole, reducing productivity and causing costly hold ups. Furthermore, there was a concern that the single-site AIX cluster did not provide enough data security in the event of system failure.

### Xynomix' Solution

The client asked Xynomix to evaluate system performance and identify existing and potential problem areas. A lack of operating system and database management, including patching and tuning, was highlighted as having a negative effect on overall system performance. A number of issues were also identified with the application code.

Initially, the operating system was fully patched and the Oracle database tuned in order to create a stabilised environment. Xynomix also stepped in to work in conjunction with the client's application vendor to resolve application coding issues.

It was clear that measures would need to be taken to eliminate the risk of entire data loss. Having discussed the backup and recovery options available to the client, it was concluded that Xynomix should design and implement a third remote server to act as an offsite DataGuard environment: a simple yet effective solution to data vulnerability stored at a central location.

### Other solutions implemented included:

- Hardware and Software fault logging with IBM
- Daily backup checks
- Bi-Annual test restores
- Monthly health checks
- Proactive Monitoring

Xynomix have provided a fully managed monitoring solution for Oracle and AIX. The client's key requirements for a robust, quick functioning database environment and effective DR strategy were achieved within the proposed time frame. Since the implementation of the monitoring solution, port operations have been smoother and productivity has increased. The client is comfortable that all valuable data is backed up and stored at a remote site, and support costs have been reduced by 50%.